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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/117,921	03/04/1999	PIERRE BROUN	PM255164	8452

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EXAMINER	
MCELWAIN, ELIZABETH F	
ART UNIT	**PAPER NUMBER**
1638	19

DATE MAILED: 02/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/117,921	BROUN ET AL.	
	Examiner	Art Unit	
	Elizabeth McElwain	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *2-6,11-13 and 17-34* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,7-11 and 14-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Group Art Unit 1638.

Applicant's election with traverse of Group IV, claims 1, 7-11 and 14-16, in Paper No. 17 is acknowledged. The traversal is on the ground(s) that the same search would be required for Groups IV and II. This is not found persuasive because Groups IV and II require different searches to two different families of genes encoding desaturases and hydroxylases and there would be an undue burden to search and examine both groups, as well as each of the additional groups..

The requirement is still deemed proper and is therefore made FINAL.

Claims 1 and 11 are objected to for the inclusion of non-elected subject matter.

Claim 1 is objected to for the inclusion of a colon in the third line. Correction is requested.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 7-9, and claim 10 dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7-9, and claim 10 dependent thereon, are indefinite in the recitation of "derivative of" with regard to a fatty acid desaturase, as it remains unclear what would constitute a derivative and what activity it would have, and the specification fails to define or clarify the use of this term.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1, 7, 11 and 16 are rejected under 35 U.S.C. 102(a or e) as being anticipated by DeBonte et al (U.S. Patent 5,850,026).

The claims are drawn to a method of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by genetic manipulation of a fatty acid desaturase.

DeBonte et al teach a method of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by genetic manipulation of a fatty acid desaturase, including modifying unsaturated fatty acid levels in a *Brassica* plant by decreasing desaturase activity by mutagenesis of the Fad2 D gene, and by introduction of a recombinant construct (see columns 15-16, for example).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 7-11 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeBonte et al (U.S. Patent 5,850,026) taken with Cahoon et al (PNAS USA 94:4872-4877, May 1997) and in view of Applicants' admitted state of the prior art.

The claims are drawn to a method of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by genetic manipulation of a fatty acid desaturase, including by modifying histidine residues of the desaturase gene.

DeBonte et al teach a method of altering the amount of an unsaturated fatty acid in a seed of a plant by decreasing a fatty acid desaturase activity by genetic manipulation of a fatty acid desaturase, including modifying unsaturated fatty acid levels in a *Brassica* plant by decreasing

desaturase activity by mutagenesis of the Fad2 D gene, and by introduction of a recombinant construct (see columns 15-16, for example).

DeBonte et al do not teach modifying histidine residues in a fatty acid desaturase to modify activity of the gene product.

Cahoon et al teach modifying the amino acid sequence of a fatty acid desaturase gene and introduction of the modified gene into a plant to alter the unsaturated fatty acid levels of the plant.

Applicants' admitted state of the prior art teaches that histidine residues were known to be essential to fatty acid desaturase activity and substituting histidine residues to modify the catalytic activity was also known in the prior art (see page 67 of the specification).

Given the recognition of those of ordinary skill in the art of the value of altering unsaturated fatty acid levels in a plant by decreasing the activity of a fatty acid desaturase in a plant, as taught by DeBonte et al, it would have been obvious to one of ordinary skill in the art to substitute a modified fatty acid desaturase gene for transformation to decrease desaturase activity in the plant. And it would have been obvious to modify the essential amino acids required for catalytic activity, such as the histidine residues, as taught by Applicants state of the prior art. Thus the claimed invention would have been prima facie obvious as a whole to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (703) 308-1794. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218. The fax phone number for this Group is (703) 308-4242. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

Any inquiry of a general nature or relating to the status of this application should be directed to the legal analyst, Gwendolyn Payne, whose telephone number is (703) 305-2475, or to the Group receptionist whose telephone number is (703) 308-0196.

Elizabeth F. McElwain, Ph.D.
February 11, 2002

ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1600